

538,843

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
1 July 2004 (01.07.2004)

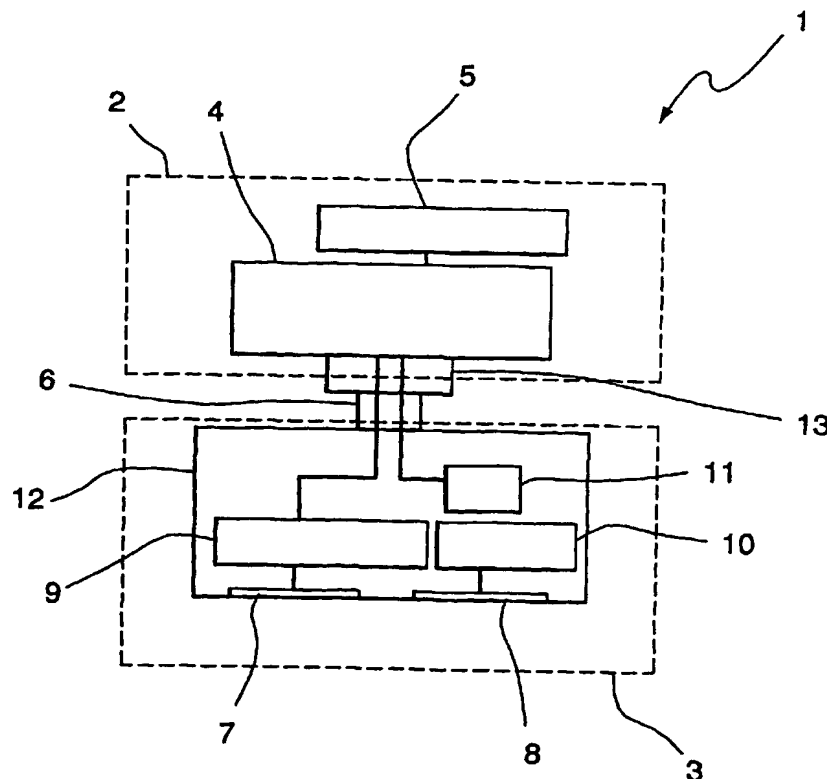
PCT

(10) International Publication Number
WO 2004/055546 A1

- (51) International Patent Classification⁷: **G01S 13/88**,
G01V 3/12
- (74) Agents: **ZACCO SWEDEN AB** et al.; Sveavägen 170,
P.O. Box 23101, S-104 35 Stockholm (SE).
- (21) International Application Number:
PCT/SE2003/001914
- (81) Designated States (*national*): AE, AG, AL, AM, AT, AU,
AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU,
CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE,
GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR,
KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK,
MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT,
RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR,
TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (22) International Filing Date: 9 December 2003 (09.12.2003)
- (25) Filing Language: Swedish
- (26) Publication Language: English
- (30) Priority Data:
0203695-2 13 December 2002 (13.12.2002) SE
- (84) Designated States (*regional*): ARIPO patent (BW, GH,
GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW),
Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE,
ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE,
SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA,
GN, GQ, GW, ML, MR, NE, SN, TD, TG).
- (71) Applicant (*for all designated States except US*): **MALÅ
GEOSCIENCE FÖRVALTNINGS AB** [SE/SE]; Skol-
gatan 11, S-93070 Malå (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (*for US only*): **FRIBORG, Johan**
[SE/SE]; Umevägen 107, S-91135 Vännäsby (SE). **JO-
HANSSON, Bernt** [SE/SE]; Hjortronstigen 55, S-930 70
Malå (SE). **LEIJON, Tommy** [SE/SE]; Brunnsgatan 28,
S-61132 Nyköping (SE).
- Published:
— with international search report

[Continued on next page]

(54) Title: APPARATUS FOR COLLECTING GROUND RADAR DATA WITH POLARIZATION INFORMATION



(57) Abstract: The present invention concerns an apparatus for collecting ground radar data with polarization information comprising a main body (2) exhibiting a means of moving the apparatus (1) along the ground, a part (3) that rotates in relation to the main body supporting a pair of antennas of transmitter and receiver type (7, 8), a power source (5) with connected control unit (4) for controlling and governing the ground radar, a transmitter unit (9) electrically connected to one of the pair of antennas (7) for generating and transmitting radar pulses and a sampler unit (10) electrically connected to the other antenna (8) for receiving the reflected radar pulses. To improve signal quality and reduce sensitivity to interference, the rotating pair of antennas (7, 8) support the transmitter unit (9), sampler unit (10) and A/D converter (11) contained in the sampler unit, the power source (5) and the control unit (4) are located in the main body (2) and are electrically connected to the transmitter unit and sampler unit via a slip-ring arrangement (6), in which the radar signals are conveyed digitally via the slip ring arrangement.

WO 2004/055546 A1



For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.